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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/352,612	07/13/1999	ARIE HENDRIK FRANS VAN VLIET	102222.01	2506

25944 7590 05/10/2005

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EXAMINER

AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/352,612

**Applicant(s)**

VAN VLIET ET AL.

**Examiner**

Jeff H. Aftergut

**Art Unit**

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-23 is/are pending in the application.  
4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7 and 13-23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

***Election/Restrictions***

1. Claims 9-12 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3-20-2001.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-7 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canadian Patent 2,162,686 in view of Kobiella.

Canadian Patent '686 disclosed bonding drawn overlapped plastic strips by welding together the strips with electromagnetic radiation. Canadian Patent '686 disclosed bonding a single strip to itself by its ends and in another embodiment suggested that the same bonding technique would have been used to form mats from crossed strips welded together at zones of overlap, see page 3, lines 4-30. The teaching of the reference is concerned with maintaining the orientation of the plastic material at the welding site of the overlapped strips so as to minimize the possible loss of strength. The weld is achieved by only melting the region containing the particles of electromagnetic radiation absorbing material so that regions outside are not melted and there is no loss of orientation in the strips in these regions, see page 2, lines 5-18. This appears to suggest that with oriented material one skilled in the art would have desired a point bonding or line bonding operation in the zones of overlap so that the finished

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assembly does not have a loss of strength in the region of the joint where the welding took place (as a result of the loss of orientation in the plastic strip material). The reference failed to teach the use at least two spatially separated bonding points or bonding lines in the zone of overlap. It should be pointed out that the strips used in the welding operation of Canadian Patent '868 would have had the specified high tensile strength in a longitudinal direction (the direction of orientation of the plastic material) and a low strain to failure in a transverse direction. Additionally, in use, one skilled in the art would have understood that the grid would have been under load.

The reference to Kobiella suggested that those skilled in the art would have maintained the orientation and therefore the strength in a weld zone when welding oriented plastic material together. The reference taught fusing in spatially separated parallel bonding lines across the overlap as this provided a fused weld that didn't destroy the orientation in the plastic material across the entire overlap and therefore maintained the tensile strength in the overlap. The use of the bonding suggested by Kobiella would have ensured that the plastic material in the strip was left in an oriented state. It should be noted that the joining operation in Kobiella suggested that the bond lines would have been oriented along the length of the strip in the longitudinal direction of the strip (which is not transverse to the direction the load was applied as defined in the claim), however it should be noted that there are two strips being joined in the operation and that those versed in the art would have understood that the crossing strip (the strip which lied at 90 degrees to the front facing strip) was likewise oriented in the longitudinal direction of the strip. Reorientation of the grid by ninety degrees would

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reveal that for the other crossing strip the bond lines were in fact disposed in the transverse direction to the direction of the applied load to the strip. As the applicant is claiming the article of manufacture, and the use of bonding according to Kobiella would have provided bond lines for an overlapping zone which had the desired bond orientation, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the bonding techniques of Kobiella in the grid of Canadian Patent 2,162,686.

With regard to claim 2, Kobiella suggested that there were eight separated parallel bonding lines in Figure 2. Regarding claim 3, Kobiella suggested that the bond lines as depicted in Figure 2 were at both edges of the overlap. Regarding claims 4 and 5, Kobiella suggested that parallel bond lines (not completely fused regions) would have to be 2.5 mm in width (column 4, lines 13-17). Regarding claim 6, note that Canadian Patent suggested that one skilled in the art would have utilized electromagnetic radiation. It is not seen how the use of a laser formed a different end product (as the finished product is what is being claimed). Regarding claim 7, one skilled in the art would have understood that the strength of the bond throughout the overlap would have varied as a function of the bonding pattern chosen and it would have been within the purview of the ordinary artisan to provide a greater number of bond lines toward the center of the pattern in order to provide a superior strength joint in the assembly. Regarding claims 13 and 17, note that Kobiella suggested that those skilled in the art would have provided the spaced lines for the bonding pattern. Regarding claims 14, 15, 16 and 18, note that the reference to Canadian Patent '868 suggested that one skilled would have

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utilized the techniques of Saito to form the mat and such suggested the specified end product as claimed. Note that the reference to Canadian Patent suggested that the mesh mats would have almost the same strength as the sum of all of the strips located in one direction, see page 4, lines 12-15. Regarding claim 19, note that Canadian Patent suggested the inclusion of absorption particles in the strips. The surface layer acts as a contact layer between overlapping strips so that upon subjecting the absorption particles to EM radiation the overlapped strips are heated and welded to each other as the embedded particles provide the surface layer with a distinctly higher absorption capacity for the EM radiation as compared to the plastic strip with the particles. One of ordinary skill in the art would have readily appreciated that Canadian Patent '868 suggested that the overlapping plastic strips have a lower capacity in comparison with the surface layer for absorbing and that the same would have been transparent to the radiation in order to permit the radiation to heat the surface layers.

4. Claims 6 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 3 further taken with French Patent 1,506,163 and Foglia et al for the same reasons as presented in the examiner's answer dated December 4, 2003.

#### ***Response to Amendment***

5. The applicant essentially argues that there is an unexpected benefit to the use of the specified weld pattern in the grid and discusses the is not claiming the splitting of the grid in the weld region and the prevention of the force from being exerted upon the loaded strip as discussed with the example in the specification. The applicant is advised

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that: (1) the claims are still not commensurate in scope with the showing of the "unexpected results" in that it would appear from the specification that the article produced is a geotextile and/or geogrid while the claims merely recite a grid and that the thickness of the strips employed in the grids is of significant difference from that described by Kobiella (as such it would appear that in order for the showing that there was a 15% improvement in the strength of the finished assembly the claims must be limited to that which was tested and shown to be unexpected), and (2) the reference to Kobiella provided a strong motivation as to why one skilled in the art at the time the invention was made would have incorporated the specified bonding pattern of Kobiella in the Canadian Patent '868.

### ***Response to Arguments***

6. Applicant's arguments filed March 28, 2005 have been fully considered but they are not persuasive.

While Canadian Patent '868 suggested that the entire area would have been welded, the reference to Kobiella is believed to provide ample motivation to one skilled in the art at the time the invention was made to weld in bonding weld lines in the region of the weld as such would have preserved the molecular orientation of the weld. It should be noted that while the reference did not suggest the prevention of the splitting and the loss of strength as a result of the same in the loaded grid, such is intrinsic when using the bonding pattern of Kobiella in the operation of Canadian Patent '868 and one skilled in the art would have been motivated to perform the processing of Kobiella in Canadian Patent '868. Applicant is advised that while Kobiella is in fact a strap and not

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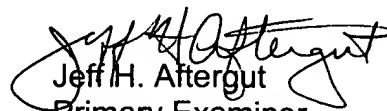
a grid arrangement, one skilled in the art would have been motivated to look to the same as it is concerned with an overlap joint wherein the material being worked upon is plastic material which was oriented and how to avoid weakening such a joint. Note that in Canadian Patent '868 the reference is concerned with the welding of an overlap of plastic material which was oriented. Clearly, the reference to Kobiella is analogous art.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut  
Primary Examiner  
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JHA  
May 8, 2005